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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Broadband Infrastructure Deployment and to Support Service Providers in the State of California.	Rulemaking 20-09-001

REPLY COMMENTS OF THE PUBLIC ADVOCATES OFFICE ON THE MAY 28, 2021 ADMINISTRATIVE LAW JUDGE RULING

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I. INTRODUCTION

Pursuant to the Assigned Administrative Law Judge's Ruling issued on May 28, 2021 (ALJ Ruling), the Public Advocates Office at the California Public Utilities Commission (Cal Advocates) submits these reply comments in response to opening comments parties submitted on July 2, 2021.

In opening comments, parties proposed definitions of the term Redlining in the context of broadband deployment. Cal Advocates' definition focuses on Redlining as an outcome that does not depend on the intent of communications service providers, but rather focuses on the level of broadband deployment, service speeds, service quality and pricing. The Commission should define Redlining as the following:

> Practices in which private or public entities limit investments in the installation, expansion, or upgrading of internet service infrastructure within specific geographic areas, including, but not limited to, areas with predominantly low-income residents and communities of color. Redlining also includes practices in which private and public entities limit broadband availability or adoption in specific areas, for example Redlining could include pricing practices that make broadband less affordable, or marketing practices that under-promote broadband services in particular areas. Redlining practices limit broadband access, impact service quality, and make broadband services less affordable to specific communities. These practices can contribute to socioeconomic disparities between low-income and high-income communities, and communities of color and predominantly white communities.[1]

Parties also provided recommendations on how the California Public Utilities Commission (Commission) should investigate Redlining and actions the Commission should take to ensure that high quality broadband service is available to all communities. In response to other parties' opening comments on the ALJ Ruling, Cal Advocates recommends that the Commission:

- Investigate the existence and extent of Redlining and implement targeted solutions as needed.
- Analyze the availability of broadband infrastructure and interrelated factors of broadband speed, price, and service quality at a granular level.
- Disregard AT&T of California's (AT&T) arguments regarding a Redlining investigation because AT&T's rationale for not having an

[1] Opening Comments of The Public Advocates Office on the May 28, 2021 Administrative Law Judge Ruling, R. 20-09-001 [hereinafter "Cal Advocates Opening Comments"], July 2, 2021, p. 10.

investigation stems from misleading or mistaken claims about fiber availability.

- Disregard the California Cable and Telecommunications Association (CCTA) and cable providers' claims that no Redlining takes place in cable broadband providers' service areas.

Finally, in response to Communication Workers of America's (CWA's) broadband availability analysis of AT&T, these reply comments provide a correction to Cal Advocates' calculations of AT&T's and Comcast Phone of California's (Comcast) broadband availability levels found in Attachments A-1 and A-2 of opening comments. While the broadband availability levels are updated, the results of the analysis continue to demonstrate the disparity between broadband availability at higher speeds amongst households in census blocks with lower incomes as compared to households in census blocks with higher incomes. Updated Attachments A-1 and A-2 to these reply comments provide the corrected numbers.

II. DISCUSSION

A. The Commission should investigate the existence and extent of Redlining and implement targeted solutions as needed.

Comcast asserts that the Commission "lacks authority to order provision of 'high quality' Internet service to particular areas or populations," noting that "[b]roadband is an information service governed by a federal policy of non-regulation."[2] AT&T similarly notes that "the broadband services at issue are interstate information services, not common carrier services" and argues that "the Ruling does not cite any source of jurisdiction or other authority that would permit the Commission to directly regulate where broadband providers deploy facilities."[3]

Comcast and AT&T fail to recognize the impact of *Mozilla v. Federal Communications Comm'n,*[4] in which the D.C. Circuit Court of Appeals vacated the Federal Communications Commission's (FCC) Preemption Directive that had been set forth in its 2018 order[5] and held

[2] Comments of Comcast Phone of California, LLC (U-5698-C) on Assigned Administrative Law Judge's Ruling, R. 20-09-001 [hereafter "Comcast Opening Comments"], July 2, 2021, p. 27, fn 67.

[3] Opening Comments of AT&T California (U 1001 C) on the First Amended Scoping Memo and Ruling, R. 20-01-001 [hereafter "AT&T Opening Comments"], July 2, 2021, p. 5, fn. 8.

[4] *Mozilla v. Federal Communications Comm'n,* 940 F.3d 1 (D.C. Cir. 2019).

[5] *In re Restoring Internet Freedom*, 33 FCC Rcd 311 (F.C.C. January 4, 2018) (hereafter the "2018 FCC Order").

that the FCC could not assert a blanket preemption over state broadband regulation.[6] In fact, the court in *Mozilla* expressly refuted the "federal policy of non-regulation"[7] that Comcast describes, stating that "What the [FCC] calls the 'federal policy of nonregulation for information services,' . . . cannot sustain the Preemption Directive either. . . . [A]s a matter of both basic agency law and federalism, the power to preempt the States' laws must be conferred by Congress. *It cannot be a mere byproduct of self-made agency policy*."[8]

Rather, as the Commission explained in Decision (D.)21-04-005, issued in the Commission's Rulemaking (R.)11-11-007 *Order Instituting Rulemaking into the Review of the California High Cost Fund-A Program:*[9]

> The Small ILECs argue that broadband imputation "oversteps the jurisdictional boundaries" set out by the FCC for broadband Internet access service. We disagree. The FCC had created uncertainty by traveling a long and winding road regarding federal regulation of broadband service. However, the *Mozilla* decision has now clarified the applicable scope of the FCC's authority over broadband Internet access service and ability to preempt state law. As the court in *Mozilla* made clear, by reclassifying broadband as an information service, the FCC placed broadband outside of its Title II jurisdiction. Thus, "Where the Commission lacks authority to regulate, it equally lacks the power to preempt state law."[10]

While D.21-04-005 acknowledged that the decision did not regulate broadband access or the broadband rates of the independent local exchange carriers who participate in California's High Cost Fund A, the Commission's analysis regarding preemption applies in this instance given the significant health and safety implications of broadband access.

The Commission's authority similarly stems from 47 U.S.C. § 1302, also known as section 706 of the Telecommunications Act (section 706), which states that:

> "The [FCC] and each State commission with regulatory jurisdiction over telecommunications services shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans

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[6] *Mozilla*, 940 F.3d at 74, ("We vacate the portion of the 2018 Order that expressly preempts 'any state or local requirements that are inconsistent with [its] deregulatory approach.' The Commission ignored binding precedent by failing to ground its sweeping Preemption Directive—which goes far beyond conflict preemption—in a lawful source of statutory authority. That failure is fatal.") (internal citations omitted).

[7] Comcast Opening Comments, p. 27.

[8] *Mozilla*, 940 F.3d at 78 (emphasis added).

[9] D.21-04-005, *Decision Adopting Broadband Imputation in the General Rate Cases of the Small Independent Local Exchange Carriers*, issued April 21, 2021, in R.11-11-007.

[10] D.21-04-005, p. 14 (footnotes omitted).

> (including, in particular, elementary and secondary schools and classrooms) by utilizing, in a manner consistent with the public interest, convenience, and necessity, price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment."[11]

Section 706 also defines advanced telecommunications capability "without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology."[12] Given that the language of section 706 emphasizes expansion of broadband to *all Americans*, which tracks many of the themes of this rulemaking, the Commission can and should act pursuant to its authority under section 706 to investigate disparities in broadband access and implement steps to correct any such disparities.

The Commission's police power authority provides jurisdiction over broadband as needed to protect the health and safety of Californians. CWA and The Utility Reform Network (TURN) argue that the Commission has jurisdiction over broadband under the Public Utilities Code,[13] which grants the Commission broad regulatory power over communications systems. The Commission relied on this authority in D.20-07-011, which required wireless providers to develop resiliency strategies for disasters and power outages, including establishing a 72-hour backup power requirement for these providers[14] and again in D.21-02-029, which established a 72-hour backup power requirement for wireline providers in areas with high fire risk.[15] The Commission explained:

> Pursuant to the police power authority vested in it by the California Constitution and the Public Utilities Code, and acting as the State's expert agency in matters of public utility infrastructure, the Commission has articulated health and safety requirements that apply in whole or in part to wireless networks, and to the wired

[11] 47 U.S.C. § 1302(a).

[12] 47 U.S.C. § 1302(d)(1).

[13] Opening Comments of The Communications Workers of America -District 9 On Phase II-B Assigned ALJ Ruling Regarding Redlining Studies, R.20-09-001 [hereinafter "CWA Opening Comments"], July 2, 2021, p. 24, citing Public Utilities Code § 701; Opening Comments of The Utility Reform Network on the Assigned Administrative Law Judge's Ruling Regarding Redlining Studies, R. 20-09-001 [hereafter "TURN Opening Comments"], July 2, 2021, p. 20, citing Public Utilities Code §§ 701, 709.

[14] D.20-07-011, *Decision Adopting Wireless Provider Resiliency Strategies*, Issued July 20, 2020, in R.18-03-011.

[15] D.21-02-029, *Decision Adopting Wireless Provider Resiliency Strategies*, Issued February 18, 2021, in R.18-03-11.

> networks on which wireless networks depend. The Commission's iterations of that authority include General Order (GO) 52 (Construction and operation of power and communication lines for the prevention or mitigation of inductive interference); GO 95 (Overhead electric [and communications] line construction); GO 128 (Construction of underground electric supply and communication systems); and GO 159-A (Construction of cellular radiotelephone facilities in California); among other such Commission orders and guidelines. The Commission's authority, and that of other state agencies acting pursuant to the States' police power, has been upheld repeatedly by both state and federal courts.[16]

The Commission in D.21-02-029 specifically cited the dangers of a communications blackout during the types of emergencies that have unfortunately become commonplace in California, noting that "rural communities make up the majority of High Fire Threat Districts. These communities have disproportionately less access to sufficient broadband services, and do not have robust wireless cellphone coverage. The public and first responders are heavily reliant on communications services and devices, regardless of the technology."[17] The Commission also noted that "[d]uring disasters, when people are trying to escape from a threatened area or communicating with 9-1-1 centers, the communication link is critical for life-saving operations."[18]

While both of those decisions relate specifically to telephone service, broadband has also become essential to daily life, including public safety, public health, education, and more. For example, CAL FIRE provides an interactive map of ongoing fires throughout California, which is inaccessible without broadband.[19] Given that Californians are regularly threatened by natural disasters such as earthquakes, wildfires, and floods, access to fast and reliable broadband service is critical to ensure that Californians can access the information they need to obtain the latest information and stay safe.

In addition, Cal Advocates agrees with several of the comments made by the parties regarding the Commission's authority to encourage broadband expansion and to ensure that all Californians have access to stable and reliable Internet access. The CWA cites the American

[16] D.20-07-011, pp. 20-21 (footnotes omitted).

[17] D.21-02-029, p. 4.

[18] D.21-02-029, p. 5.

[19] *See* https://www.fire.ca.gov/incidents/.

Civil Liberties Union of Southern California arguing that the California Constitution gives all Californians the right to an education free from discrimination, which is also well supported by case law around the nation.[20] Failing to ensure access to broadband creates a "Digital Desert," which causes irreparable harm to underserved children, particularly those in rural and inner-city neighborhoods.[21]

Cal Advocates agrees with this analysis. A disparity in affordable broadband can deprive students of the ability to receive a quality education. The disparity in affordable broadband for students, which the FCC Acting Chairwoman Jessica Rosenworcel has coined the "homework gap,"[22] has led the FCC to launch and expand several programs designed to ensure that schools, libraries, and students have affordable access to broadband, including the E-Rate Program,[23] the Emergency Broadband Benefit,[24] and the Emergency Connectivity Fund.[25]

As the Covid-19 pandemic has made abundantly clear, broadband is a necessity of life, and a lack of access to broadband is tantamount to a deprivation of opportunity: the opportunity to work (particularly given the number of companies that are embracing or even mandating remote work in the post-COVID world), to receive services including telehealth and interacting with the government through the Internet, and to receive a quality education. The Covid-19 pandemic is not over, nor is it likely to be the last time Californians will face a calamity that will force us to stay in our homes and rely more than ever on our broadband connections. A strong and equitable broadband infrastructure is crucial to mitigating the impact of staying home.

As the Greenlining Institute's *On the Wrong Side of the Digital Divide* report showed through anecdotal testimony, a lack of stable and affordable broadband results in many lower-income families choosing between broadband and food, pushing them into a continuing cycle of poverty and a lack of opportunities.[26]

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[20] CWA Opening Comments, p. 16.

[21] CWA Opening Comments, p. 16.

[22] https://www.fcc.gov/about-fcc/fcc-initiatives/homework-gap-and-connectivity-divide.

[23] https://www.fcc.gov/general/e-rate-schools-libraries-usf-program.

[24] https://www.fcc.gov/broadbandbenefit.

[25] https://www.fcc.gov/emergency-connectivity-fund.

[26] Greenlining Institute, *On the Wrong Side of the Digital Divide*, [hereinafter "Greenlining Report"], June 2020. https://greenlining.org/publications/online-resources/2020/on-the-wrong-side-of-the-digital-divide/

California's duty to its citizens is no less than the federal government's. Without broadband, the Constitutional right to an education is meaningless. The Commission should do everything in its power to ensure that Californians have the tools they need to work, receive an education, and obtain the services needed to function effectively.

B. The Commission should analyze disparities not only in the availability of broadband infrastructure but also interrelated factors of broadband speeds, price, and service quality.

The Commission should disregard several parties' recommendation to not conduct an investigation on Redlining.[27] These parties, mainly communications service providers, argue that their respective companies do not Redline because there is widespread availability of broadband infrastructure, including high-speed infrastructure, in their service territories in California as well as the state.[28] In this context, the parties note that an investigation on Redlining would not be productive and would serve as a distraction from achieving the extant task of ensuring access to broadband service for all Californians.[29] The Commission should not be persuaded by these arguments for two reasons.

First, claims of widespread availability of broadband infrastructure notwithstanding, the record of this proceeding shows disparities in broadband availability for specific communities.[30] As several parties point out in opening comments, Redlining practices produce differential

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[27] Opening Comments of Charter Fiberlink CA-CCO, LLC (U-6878-C) and Time Warner Cable Information Services (California), LLC (U-6874-C) on the Assigned Administrative Law Judge's May 28, 2021 Ruling, R. 20-09-001 [hereinafter "Charter Opening Comments"], July 2, 2021, p. 6; Opening Comments of Small LECs On May 28, 2021 Assigned Administrative Law Judge's Ruling, R.20-09-001 [hereafter "Small LECs Opening Comments"], July 2, 2021, pp. 6-7; Comments of The California Cable And Telecommunications Association, R. 20-09-001 [hereinafter "CCTA Opening Comments"], July 2, 2021, p. 4; Opening Comments of Frontier on May 28, 2021 Assigned Administrative Law Judge's Ruling, R. 20-09-001 [hereinafter "Frontier Opening Comments"], July 2, 2021, p.3; Comcast Opening Comments, p. 29; AT&T Opening Comments, p. 1; Comments of the Advanced Communications Law & Policy Institute at New York Law School to the Assigned ALJ's Ruling Filed May 28, 2021, R.20-09-001 [hereafter "ACLP Opening Comments"], July, 2, 2021, p. 3.

[28] Charter Opening Comments, pp. 6-8; Comcast Opening Comments, p. 2; AT&T Opening Comments, p. 2-4, 7-10; Small LECs Opening Comments, pp. 2-3; CCTA Opening Comments, p. 4, 8; Frontier Opening Comments, p. 1-2; ACLP Opening Comments, p. 3.

[29] *See e.g.*, CCTA Opening Comments, p. 4; ACLP Opening Comments, p. 35; Charter Opening Comments, p. 6; Small LECs Opening Comments, pp. 6-7; AT&T Opening Comments, p. 1; Comcast Opening Comments, pp. 4-5.

[30] *See, e.g.*, Cal Advocates Opening Comments, pp. 3-6, 13-16; TURN Opening Comments, pp. 8-20, 37-45; Phase II-B Comments of the Utility Consumers' Action Network (hereafter "UCAN Opening Comments"] R. 20-09-001, July 2, 2021, pp. 3-6, 10-18; CWA Opening Comments, pp. 1-12.

outcomes related to broadband availability and affordability for different communities, regardless of whether those outcomes are the product of discriminatory *intent*.[31] Regardless of intent, the evidence in this proceeding shows outcomes that indicate the presence of a systemic Redlining problem in California that warrants further analysis.

Second, Redlining is a multi-faceted issue. The availability of broadband infrastructure alone does not indicate the absence of Redlining. As discussed in opening comments from Cal Advocates, TURN, and CWA, Redlining may also occur through practices that impact broadband speed, service quality, and price of broadband service available to specific communities.[32] Redlining may occur *even when* broadband infrastructure is present.

The Commission should conduct a granular analysis of disparities in broadband service for different communities, including small businesses located in historically marginalized communities.[33] Such an assessment is both productive and necessary to inform targeted future investment efforts as well as remedy disparities in broadband access caused by past Redlining practices.[34] As the Commission conducts its granular analysis, it should include an examination of not just broadband availability but also interrelated factors of broadband speed, price and service quality as further discussed below.

i. Broadband Speeds

The Commission must analyze whether demographically distinct communities receive and experience different download and upload broadband speeds, regardless of the technology deployed. Such an assessment can illuminate disparities in the quality of broadband service where infrastructure is available. For example, AT&T claims in its opening comments that its broadband offerings cover virtually all Californians and that its network is "very fast and

[31] Cal Advocates Opening Comments, pp. 10-11; TURN Opening Comments, p. 7.

[32] Cal Advocates Opening Comments, pp. 10-11; TURN Opening Comments, pp. 32-33, 44; CWA Opening Comments, pp. 7-8, 20-21.

[33] Comments Of Small Business Utility Advocates on Assigned Administrative Law Judge's Ruling, R.20-09-001, July 2, 2021, p. 5.

[34] Cal Advocates Opening Comments, pp. 9, 16-18. While the California Emerging Technology Fund argues that "the Commission [should not] expend its scare resources on a Redlining investigation, but instead more fruitfully focus on solutions," targeted solutions in fact require detailed data and analysis. See Comments of the California Emerging Technology Fund on Assigned ALJ's Ruling on Redlining, R.20-09-001, July 2, 2021, p. 8.

high-quality."[35] However, Cal Advocates' analysis of publicly available FCC June 2019 Form 477 data underscores the disparities in broadband access in AT&T's service territory. Low-income census blocks are 14.7% less likely than non-low income census blocks to be served by AT&T at speeds of 25 download /3 upload (25/3) Megabits per second (Mbps), that is, minimum speeds necessary for a service to qualify as "broadband" under the FCC standard.[36] While Cal Advocates' analysis used publicly available data, the Commission should independently collect and analyze data on both the maximum advertised broadband upload and download speeds as well as the actual speeds delivered[37] at the census block level to identify and address any disparities in broadband speeds.

The Commission's analysis of broadband speeds must also examine disparities in broadband plans that cater to lower-income households versus the general public and ensure that the two sets of broadband plans offer equivalent speeds, should the Commission find any differences. The Commission may solicit speed test reports from customers of low-cost broadband plans, such as through the expansion of the CalSPEED Home Testing project,[38] to aid this analysis.

ii. Price

The Commission should include price as a parameter in its Redlining analysis. Price is an essential factor in defining Redlining. Cal Advocates' proposed definition of Redlining includes "practices in which private and public entities limit broadband availability or adoption in specific areas, for example Redlining could include pricing practices that make broadband less

[35] AT&T Opening Comments, p. 7

[36] Attachment A-1 to Cal Advocates Opening Comments, p. 9.

[37] *See, e.g.*, CWA Opening Comments, pp. 7-8, noting the difference in the speeds required under CalNeva's CASF application versus the speeds tested in its service territory in Huron.

[38] *See*, https://www.calspeed.net/about.html

affordable, ..."[39] All three studies cited in the ALJ's Ruling stated that lower-income customers tend to pay higher prices for lower broadband speed service.[40],[41],[42]

The Commission should analyze whether communications service providers price their broadband services differently in areas with different socioeconomic statuses.[43] This could mean that customers in the same communities pay different prices for the same broadband service or pay the same price for broadband services that differ in quality. One example is National Digital Inclusion Alliance's (NDIA) 2018 report *Tier Flattening: AT&T and Verizon Home Customers Pay a High Price for Slow Internet* [hereinafter the "NDIA Report"]. The report shows that AT&T and Verizon both charge higher price per megabit for lower broadband download speed service than higher speed service.[44] Based on the NDIA Report, Table 1 below shows AT&T's fixed broadband price per megabit for different broadband download speed services. In addition, based on AT&T's responses to Cal Advocates' 2021 Broadband Pricing Data Request, Table 2 below shows a similar result to Table 1, which is that slower broadband plans have higher prices per megabit.

Both tables show that AT&T charges higher price per megabit for broadband service using digital subscriber line (DSL) than broadband service using fiber. AT&T used DSL to provide broadband service for broadband download speeds up to 100 Mbps and used fiber to

[39] Cal Advocates Opening Comments, p. 10.

[40] Greenlining Report, "Californians generally only have two internet providers to pick from, resulting in higher prices and slower speeds." "California should require all internet providers to market and offer affordable high-speed internet plans to low-income households."

[41] AT&T's Digital Redlining: Leaving Communities Behind for Profit, released in October 2020 by the Communications Workers of America (CWA) and the National Digital Inclusion Alliance (NDIA) [hereinafter the "CWA and NDIA Report"], p. 3. "[e]ven where that access is available from another provider -- typically a cable provider -- consumers are deprived of the benefits of competition in price, choice, and service quality."

[42] Who gets access to Fast Broadband? Evidence from Los Angeles County 2014-17, by University of Southern California (USC) Annenberg Research Network for International Communication and the USC Price Spatial Analysis Lab [hereinafter the "USC Annenberg and Price Report, p. 3. "… low-income residents have fewer broadband options, which is typically associated with lower quality service and higher prices."

[43] Cal Advocates Opening Comments, p. 10.

[44] NDIA Report , pp. 2, 4. https://www.digitalinclusion.org/wp-content/uploads/2018/07/NDIA-Tier-Flattening-July-2018.pdf.

provide broadband service for broadband download speeds of 100 Mbps and above.[45] Moreover, Cal Advocates' analysis in Section C below indicates that households in low-income census blocks have less access to fiber services in AT&T's service area. Therefore AT&T's broadband pricing may have discriminatory effects because lower-income customers may be more likely to pay higher costs for inferior service.

Table 1: AT&T's Fixed Broadband Price as of July 2018 [46]

Max Download Speed (in Mbps)	Technology	AT&T charged Price	Price per Megabit
Col.(a)	Col.(b)	Col.(c)	Col.(d) = Col.(c)/Col.(a)
0.77	DSL	$50.00	$64.94
1.5	DSL	$50.00	$33.33
3	DSL	$50.00	$16.67
5	DSL	$50.00	$10.00
10	DSL	$60.00	$6.00
25	DSL	$60.00	$2.40
50	DSL	$60.00	$1.20
75	DSL	$60.00	$0.80
100	Fiber	$60.00	$0.60

[45] AT&T's responses to Cal Advocates' Broadband Pricing Data Request 01 sent on April 14, 2021; NDIA Report, p. 4.

[46] NDIA Report, July 2018, p. 4.

Table 2: AT&T's Fixed Broadband Price in California in 2021 [47]

Max Download Speed (in Mbps)	Technology	AT&T charged Price	Price per Megabit
Col.(a)	Col.(b)	Col.(c)	Col.(d) = Col.(c)/Col.(a)
10	DSL	$45.00	$4.50
18	DSL	$45.00	$2.50
25	DSL	$45.00	$1.80
50	DSL	$45.00	$0.90
75	DSL	$45.00	$0.60
100	DSL	$45.00	$0.45
100	Fiber	$35.00	$0.35
300	Fiber	$45.00	$0.15
500	Fiber	$60.00	$0.12
1,000	Fiber	$60.00	$0.06

The Commission should perform a more granular analysis with census block level data on broadband pricing per megabit. This would help the Commission identify where and to what extent there is Redlining in the form of price disparities among communities in order to implement appropriate remedies.

iii. Service Quality

The Commission should consider service quality outcomes in its assessment of Redlining, particularly broadband infrastructure investment and customer service metrics, because discrepancies in these outcomes could constitute Redlining. For example, upgrading broadband infrastructure in higher-income areas but failing to make similar investments in lower-income areas could constitute Redlining. As evidenced by the CWA and NDIA Report and the Commission's own Network Exam of A&T and Frontier/Verizon, 2010-2017, lower-income communities experience poorer service quality outcomes than wealthy communities, and AT&T's investment decisions have favored higher-income areas.[48],[49] For example, the weighted

[47] AT&T's responses to Cal Advocates' Broadband Pricing Data Request 01 sent on April 14, 2021.

[48] *See* Cal Advocates Opening Comments, p. 4.

[49] *See* Key Finding 5 of the Network Exam on the Commission's website. Available as of 7/19/2021 at https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/advice-letter-information/network-exam-of-att-and-frontier-verizon-2010-2017.

average 2010 Median Household Income of communities upgraded with AT&T fiber feeder facilities is over 18% higher than communities without such upgrades.[50]

The Commission should consider service quality outcomes in future analyses of Redlining and can gain a better understanding of existing disparities through more granular analysis of broadband infrastructure investment and customer service across communities.

C. The Commission should disregard AT&T's arguments regarding a Redlining investigation because AT&T's rationale for not having an investigation stems from misleading or mistaken claims about fiber availability.

The Commission should disregard AT&T's argument that the Commission should not conduct a Redlining investigation[51] because the currently available evidence suggests that AT&T's fiber to the home (FTTH) deployment practices have produced disparities for low-income households. Cal Advocates analyzed AT&T's FTTH deployment, data as of December 2019, as reported in the California Broadband Availability Map. In AT&T's service territory, households in low-income areas have less access to AT&T's FTTH service compared to average availability and significantly less access than households in higher-income areas.

Cal Advocates' analysis found that AT&T's fiber service availability is strongly correlated with median household income (MHI).[52] Census blocks in AT&T's service territory with access to FTTH were 6.9% wealthier on average than census blocks without access to FTTH, which suggests that AT&T's FTTH is not uniformly distributed and that low-income areas have less FTTH than higher income areas as further discussed below.[53]

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[50] *See* Network Exam Chapter 1: Executive Summary, p. 24. Available as of 07/19/2021 at https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpucwebsite/content/utilitiesindustries/communications/licensing_compliance/network-exam-ch-1-exec-sum.pdf.

[51] AT&T Opening Comments, p. 26.

[52] For this analysis, Cal Advocates used American Community Survey (ACS) 2018 5-Year data for MHI values and household estimates. ACS MHI values are reported by census block group, so Cal Advocates used each census block's parent census block group value to approximate the census block's MHI value, ACS data is available here: https://data.census.gov/cedsci/table?q=ACSST1Y2019.S1903&g=0400000US06&tid=ACSST5Y2018.S1903&hidePreview=true . For broadband deployment data, Cal Advocates used the Commission's Broadband December 2019 Availability Data, available at https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/broadband-mapping-program/california-broadband-availability-maps-and-gis-data.

[53] Cal Advocates is using the term "FTTH availability" to mean the percentage of households in census blocks in AT&T's service territory that have access to AT&T FTTH.

i. FTTH Availability Compared to MHI

AT&T has deployed FTTH to 24.4% of the households in its service territory.[54] Figure 1 shows the percentage of households, by MHI, in AT&T's service territory that have AT&T FTTH. AT&T's average FTTH availability value, set at 24.4%, is shown by the orange line in Figure 1. Figure 1's blue line shows the percentage of households in AT&T's service territory to which AT&T has deployed FTTH for each $10,000 MHI increment from $0 to more than $250,000.

Figure 1: Percentage of Households Served by AT&T with FTTH Technology by MHI in California (as of December, 2019)

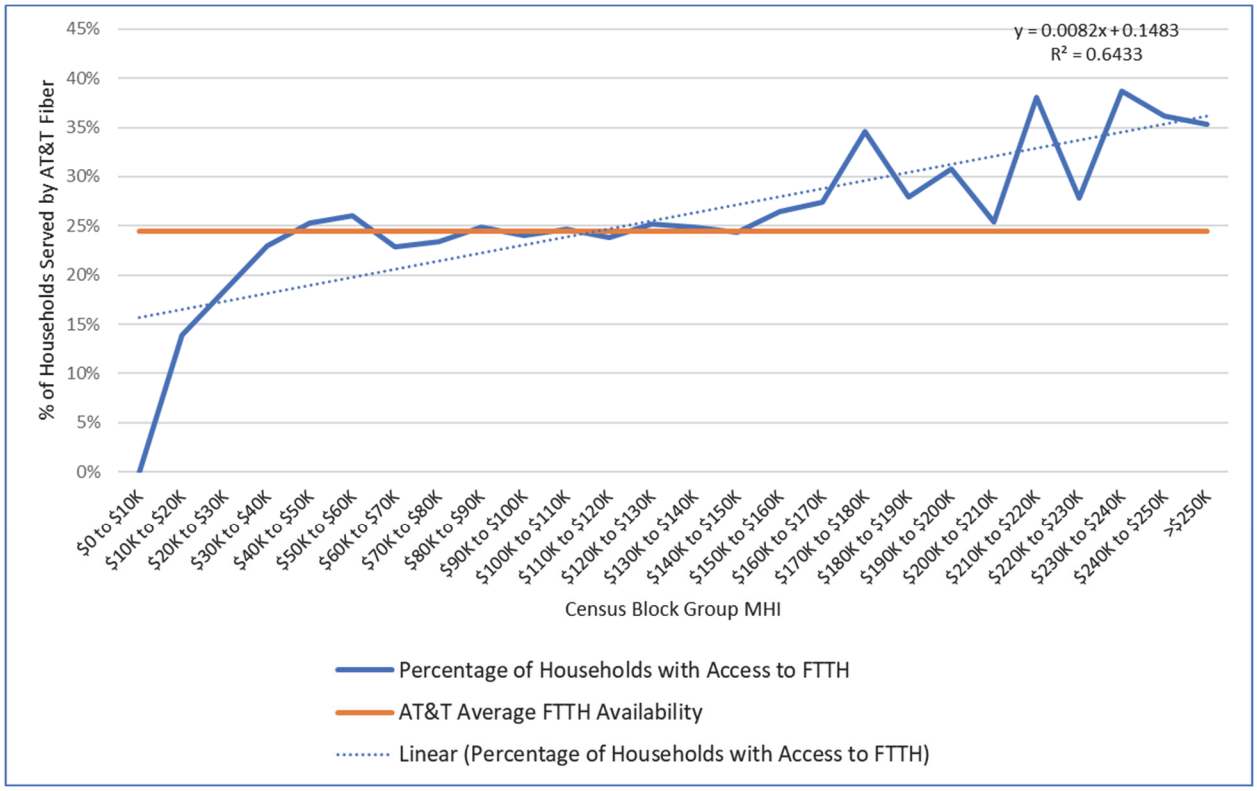

Figure 1 shows that FTTH broadband availability tends to increase as MHI increases, implying that more affluent households are more likely to have FTTH broadband availability than low-income households. The blue line indicates FTTH broadband availability falls below the orange line for all households in census blocks groups with MHI below $40,000; thus, these

[54] Of the total 13.11 million households in California, AT&T's wireline service territory comprises census blocks containing 8.96 million households, and 2.19 million of those households are in census blocks that have access to AT&T's FTTH service.

households are less likely to have access to FTTH. On the other hand, households in census block groups with MHI greater than $120,000 were more likely to have FTTH available.[55] As part of this analysis, Cal Advocates fitted a trendline to the plotted FTTH availability distribution which returned an R^2 value of 0.64, implying that 64% of the variation observed in FTTH availability is attributable to differences in MHI. The slope of the trendline is .0082, suggesting that every $10,000 increase in MHI corresponds to a 0.82% increase in FTTH availability.

ii. MHI Comparison Between Census Blocks with FTTH and Those Without

The observation that higher income areas in AT&T's service territory are more likely to have FTTH broadband availability is supported by additional statistical analysis. Cal Advocates performed a T-test that compares the MHI of census blocks in AT&T's service territory that have FTTH to those that do not have access to FTTH. The mean MHI for census blocks in AT&T's service territory without FTTH was $82,021, while the mean MHI for census blocks with AT&T FTTH was $87,689, a difference of 6.9%. The difference in mean MHI was found to be statistically significant, with an infinitesimally small P-value of $4.41*10^{-141}$.[56] The resulting P-value implies that it is extremely unlikely that the difference in MHI is due to chance. The results of the T-test are shown in Table 1 below.

Table 1: AT&T FTTH Availability and Mean Median Household Income T-Test

	Census Blocks Without FTTH	*Census Blocks With FTTH*
Mean MHI	$82,021	$87,689
Variance	1,793,807,569	2,135,447,216
Observations	145,720	50,366
Pooled Variance	1,881,559,149	
Hypothesized Mean Difference	0	
df	196,084	
t Stat	-25.28	
P(T<=t) one-tail	4.4142E-141	
t Critical one-tail	1.96	

[55] There is one exception to this trend, which is the $140K to $150K increment. This group of households has slightly below average (.07% less) access to FTTH. However, every other group of households with MHI above $120K has greater than average access to FTTH.

[56] The standard for statistical significance is .05 meaning that P-values that are below .05 are considered statistically significant. The P-value shown above is well below .05.

iii. The Evidence Presented in This Section Supports Launching an Investigation into Redlining

AT&T states that if "AT&T's fiber deployments avoided low-income… households, one would expect the data to show that AT&T's fiber service is deployed to a relatively smaller fraction of low-income… households."[57] Cal Advocates' analyses presented in this section indicate that AT&T's fiber service *is* deployed to a relatively smaller fraction of low-income households. Contrary to AT&T's claim that there is "no justifiable basis"[58] to launch a Redlining investigation, Cal Advocates' above analysis of publicly available data suggests that AT&T's FTTH deployment practices, regardless of intent, have resulted in less access to FTTH broadband in low-income households as compared to households with higher incomes. The Commission should use this opportunity to investigate whether other communications service providers' broadband deployment practices have resulted in Redlining.

D. The Commission Should Disregard CCTA and Cable Providers' Claims Regarding Redlining.

CCTA opposes a Commission investigation of Redlining into its member organizations, claiming that "Cable broadband providers do not deny broadband service to consumers based on race or income."[59] However, besides acknowledging that cable operators have a legal obligation to serve households in their franchise areas without regard to income,[60] CCTA does not provide a basis upon which to make such a broad claim across all its 29 member organizations.[61]

Notwithstanding CCTA's claim that cable broadband providers do not deny broadband service to consumers based on income, the currently available evidence reveals that low-income households are less likely to be served with broadband in Comcast's service territory. Cal Advocates analyzed Comcast's broadband deployment within its California video franchise area

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[57] AT&T Opening Comments, p. 11.

[58] AT&T Opening Comments, p. 26.

[59] *See* CCTA Opening Comments, July 2nd, 2021, p. 8. In CCTA's Opening Comments on the Order Instituting Rulemaking for this proceeding (R.20-09-001), CCTA references its legal obligations under federal and state law as follows: See 47 U.S.C. § 541(a)(3) (prohibiting denial of access to cable service "because of the income of the residents of the local area in which such group resides"); Section 5890(a) (providing that DIVCA video franchisees "may not discriminate against or deny access to service to any group of potential residential subscribers because of the income of the residents in the local area in which the group resides").

[60] CCTA Opening Comments, p. 8.

[61] CCTA has 29 member organizations as of 7/13/2021 based on its membership directory available at https://calcable.org/connect/membership-directory/.

and found statistically significant evidence that low-income census blocks are less likely to be served with Comcast broadband service at 25/3 Mbps upload than non-low-income census blocks.[62],[63] In addition to finding a statistically significant relationship between income and served status across Comcast's franchise territory, Cal Advocates' analysis also identified specific counties where more granular analysis is warranted. In fact, 17 counties in California, including dense urban counties such as San Francisco and Sacramento, exhibit potential Redlining. Within each of those 17 counties, low-income households comprise a disproportionate share of those without access to Comcast's broadband service.[64] Because there is strong evidence of income disparities related to the availability of broadband in Comcast's franchise territory, the Commission should disregard CCTA's argument that there is no evidence to suggest that cable broadband providers have engaged in any form of discrimination.[65]

Given the significant health and safety impacts of access to broadband, the Commission should remedy any disparities in broadband access based on income within cable broadband providers' franchise territories. Only by completing granular, census block-level analyses can the Commission identify where there are income disparities in order to effectively implement remedies.

E. Updated Redlining Analysis

In response to CWA's broadband availability analysis of AT&T, these reply comments provide a correction to Cal Advocates' calculations of AT&T's and Comcast's broadband availability levels found in Attachments A-1 and A-2 of opening comments as well as Tables 2 and 3 of opening comments. Updated Attachments A-1 and A-2 to these reply comments provide the corrected numbers. While the broadband availability levels are updated, the results of the analysis continue to illustrate statistically significant differences in broadband availability at 25/3 Mbps between households in census blocks with lower incomes as compared to households in census blocks with higher incomes. Households in census blocks with higher incomes have greater access to broadband at 25/3 Mbps, with statistical testing indicating that it

[62] *See* Cal Advocates Reply Comments Updated Attachment A-2.

[63] For the purposes of sections D and E, a "low-income household" defined based on Public Utilities Code 5890(j) as a household where the average annual household income is less than thirty-five thousand dollars ($35,000).

[64] Cal Advocates Reply Comments Updated Attachment A-2.

[65] *See* CCTA Opening Comments, p. 14.

is extremely unlikely that the differences in broadband access among low- and non-low-income census blocks are due to chance alone.

Based upon the corrections in Updated Attachments A-1 and A-2, Cal Advocates submits the following update to Tables 2 and 3 of opening comments:

Opening Comments Table 2: 2019 Broadband Availability in AT&T's Video Franchise Territory by Income at 25/3 Mbps

Whole AT&T Franchise Territory		
MHI	**Sum of HH 2019**	**% of Total HH in Franchise Territory**
0-$35,000 (Low Income)	853,280	9%
$35,000-$70,000	3,716,986	37%
$70,000-$105,000	2,890,609	29%
$105,000+	2,563,064	26%
Total	**10,023,939**	**100%**

Households without Access to AT&T Broadband Service at 25/3 Mbps			
MHI	**Sum of HH Jan 2019**	**% of total HHs in Franchise Territory**	**% HHs of total HH without access**
0-$35,000 (Low Income)	324,344	3.24%	12%
$35,000-$70,000	1,107,132	11.04%	41%
$70,000-$105,000	692,454	6.91%	26%
$105,000+	562,260	5.61%	21%
Total	**2,686,191**	**26.80%**	**100%**

Opening Comments Table 3: 2019 Broadband Availability in Comcast's Video Franchise Territory by Income at 25/3 Mbps

Whole Comcast Franchise Territory		
MHI	**Sum of HH 2019**	**% of Total HH in Franchise Territory**
0-$35,000 (Low Income)	341,683	8%
$35,000-$70,000	1,301,231	32%
$70,000-$105,000	1,191,205	29%
$105,000+	1,292,061	31%
Total	**4,126,180**	**100%**

Households without Access to Comcast Broadband Service			
MHI	**Sum of HH Jan 2019**	**% of total HHs in Franchise Territory**	**% HHs of total HH without access**
0-$35,000 (Low Income)	14,054	0.34%	13%
$35,000-$70,000	41,804	1.01%	40%
$70,000-$105,000	30,904	0.75%	29%
$105,000+	18,212	0.44%	17%
Total	**104,973**	**2.54%**	**100%**

III. CONCLUSION

Cal Advocates supports the ALJ Ruling's use of the three reports along with data cited and recommends the Commission adopt the recommendations presented in Cal Advocates' opening comments submitted on July 2, 2021, and these reply comments.

Respectfully submitted,

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